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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/597,345	<b>Applicant(s)</b> JARVENKYLA, JYRI
	<b>Examiner</b> ERIK KASHNIKOW	<b>Art Unit</b> 1794

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED. (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 13 November 2008.
- 2a) This action is FINAL.      2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 73-126 is/are pending in the application.
- 4a) Of the above claim(s) 109-123 is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 73-108 and 124-126 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 20 July 2006 is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All    b) Some \* c) None of:
1. Certified copies of the priority documents have been received.
  2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO/SB/08)  
 Paper No./Mail Date 08/21/07
- 4) Interview Summary (PTO-413)  
 Paper No./Mail Date \_\_\_\_\_
- 5) Notice of Informal Patent Application
- 6) Other: \_\_\_\_\_

**DETAILED ACTION**

***Election/Restrictions***

1. Applicant's election with traverse of claims 73-108 and 124-126 in the reply filed on 11/13/08 is acknowledged. The traversal is on the ground(s) that the article and method do share a same technical feature and one would inherently search for them both at the same time. This is not found persuasive because the independent article claim does not require an inner layer formed by extrusion, and as such this special technical feature is not shared between the article and the method and unity of the inventions is broken.

The requirement is still deemed proper and is therefore made FINAL.

2. Claims 109-123 withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected method, there being no allowable generic or linking claims. Applicant timely traversed the restriction (election) requirement in the reply filed on 11/13/08.

***Priority***

3. Acknowledgment is made of applicant's claim for foreign priority based on a PCT application filed on 01/20/2005. It is noted, however, that applicant has not filed a certified copy of the PCT documents as required by 35 U.S.C. 119(b).

***Double Patenting***

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory

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obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

4. Claims 74-75 and 85-87 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 31-35 and 37 of copending Application No. 11/458,927. Although the conflicting claims are not identical, they are not patentably distinct from each other because the difference between the claims is that the instant application requires a contoured metal outer layer whereas the copending application only requires a metal layer, however, a contoured metal, as defined by applicant's is a layer conformed to fit a regular geometric curve in the axial direction. It would be obvious to one of ordinary skill in the art at the time of the invention that any layer of a pipe would be conformed as to fit a regular geometric curve in the axial direction of the pipe.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

***Claim Rejections - 35 USC § 101***

5. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

***Claim Rejections - 35 USC § 112***

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 74, 95-107 and 125 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

8. The term "effective amount" in claim 74 is a relative term which renders the claim indefinite. The term "effective amount" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

9. The term "substantially" in claim 105 is a relative term which renders the claim indefinite. The term "substantially" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. .

10. Claim 125 provides for the use of a multilayer pipe, but, since the claim does not set forth any steps involved in the method/process, it is unclear what method/process

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applicant is intending to encompass. A claim is indefinite where it merely recites a use without any active, positive steps delimiting how this use is actually practiced.

Claim 125 is rejected under 35 U.S.C. 101 because the claimed recitation of a use, without setting forth any steps involved in the process, results in an improper definition of a process, i.e., results in a claim which is not a proper process claim under 35 U.S.C. 101. See for example *Ex parte Dunki*, 153 USPQ 678 (Bd.App. 1967) and *Clinical Products, Ltd. v. Brenner*, 255 F. Supp. 131, 149 USPQ 475 (D.D.C. 1966).

#### ***Claim Rejections - 35 USC § 102***

11. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

12. Claims 73, 75-77, 85-88, 108 and 124-126 are rejected under 35 U.S.C. 102(b) as being anticipated by Hansen et al. (US 2002/0007861).

13. In regards to claims 73 and 85 Hansen et al. teach a pipe which comprises an inner thermoplastic layer and a layer outside the thermoplastic layer which comprises a metal (claim 1). Hansen et al. teaches that the metal layer comprise aluminum (claim 11). Hansen et al. teach that the metal barrier is an oxygen barrier layer as well (paragraph 0043).

14. In regards to claim 75 Hansen teaches an embodiment wherein there is an additional outer layer which is on the opposite side of the metal layer and comprises a plastic (claim 8).
15. In regards to claims 76 and 77, Hansen et al. teach an embodiment wherein the inner layer is a polyolefin, specifically a cross linked polyethylene (claim 4).
16. In regards to claim 86, Examiner is treating it as a product by process claim, specifically regarding the term "formed by a method selected from the group consisting of...". It has been shown that even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process (MPEP 2113 and *In re Thorpe*, 777F.2d 695, 698, 227 USPQ 964, 966). As such the metal layer attached to an inner layer of plastic as disclosed above meets the limitations of claim 86 as well.
17. In regards to claim 87 Hansen et al. teach 6 embodiments of their invention without a bonding agent between the metal and plastic layer (claim 6), and one such embodiment (claim 7 which has a layer between the metal and plastic layers (claim 7).
18. In regards to claim 88 as the metal layer is made of the same material and is in the same position as that presently claimed it would inherently impede diffusion of stabilizers and other additives out from the inner thermoplastic layer as presently claimed.

19. In regards to claim 108 Hansen et al. teach an embodiment wherein the outer layer is cross linked polyethylene (claim 17).
20. In regards to claims 124 and 126 as Hansen et al. teach the same materials in the same formation as presently claimed the respective E-modulus of the given layers would inherently be the same. Hansen et al. teach that the pipe is capable of axial deformation (claim 1)
21. In regards to claim 125 Hansen et al. teach their pipes are for use in a hot and cold running water system (paragraph 0001).
  
22. Claims 73, 75, 91 and 92 are rejected under 35 U.S.C. 102(b) as being anticipated by Guest. (EP 0 793 045).
23. In regards to claims 73, 91 and 92 Claussen et al. teach a multilayer pipe comprised of an inner plastic layer, an intermediate corrugated metal layer (reference number 10 in Figure 1), and an outer layer (claim 1). It is apparent from figure 1 that the corrugations are in a sinusoidal pattern.

***Claim Rejections - 35 USC § 103***

24. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

25. Claims 89 and 90 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hansen et al. (US 2002/0007861).
26. As stated above Hansen et al. teach a multilayer pipe comprising an inner polyolefin layer and a metallic layer outside said polyolefin layer however they are silent regarding the thickness of said metal layer.
27. In regards to claims 89 and 90 as the overall strength, stiffness, and form stability of the pipe are variable(s) that can be modified, among others, by adjusting said thickness of the metal layer (paragraph 40), the thickness of the metal layer would have been considered a result effective variable by one having ordinary skill in the art at the time the invention was made. As such, without showing unexpected results, the claimed thickness cannot be considered critical. Accordingly, one of ordinary skill in the art at the time the invention was made would have optimized, by routine experimentation, the thickness of the metal layer in Hansen et al. to obtain the desired balance between strength, stiffness, and form stability (*In re Boesch*, 617 F.2d. 272, 205 USPQ 215 (CCPA 1980)), since it has been held that where the general conditions of the claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. (*In re Aller*, 105 USPQ 223).
28. Claims 74, 78-80 and 82-84 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hansen et al. (US 2002/0007861) in view of Schmitz et al. (US 2002/0082352).

29. As stated above Hansen et al. teach a multilayer pipe comprising an inner polyolefin layer and a metallic layer outside said polyolefin layer however they are silent regarding the polar functional constituent of the inner layer.

30. In regards to Claims 74, 78, 79, and 80 Schmitz et al. teach a plastic pipe (paragraph 0096). Schmitz et al. teach that the pipe is three layers and that the first layer comprises a polyolefin (claim 1). Schmitz et al. teach that the inner layer can comprise a polypropylene or a polyethylene (paragraph 0052). Schmitz teaches that the polyolefin layer may be combined (grafted) with maleic anhydride modified EPM to form a polar functional polyolefin (paragraph 0052 and 0086). Schmitz et al. teach that fillers may be added to the layers (paragraph 0087). These embodiments meet sections (i) and (iii) of Applicant's claim 1. As these materials are the same as Applicant's they would intrinsically be extrudable. In regards to the polar stabilizer, Schmitz et al. teach the inclusion of UV stabilizers, which Applicant's include in a list of their polar stabilizers (paragraph 0087).

31. In regards to claims 82 and 83 Schmitz et al. teach that the olefin polymer with the functional group can be combined with an olefin polymer without a functional group (paragraphs 0035-0041). In regards to the limitation the that polyolefin is a non crystalline polyolefin, Schmitz et al. teach that the non polar polyolefin may be polyethylene or polypropylene, as polyethylene is the same material presently claimed, it would intrinsically be non crystalline (paragraph 0052).

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32. In regards to claim 84 Schmitz et al. teach it is in principle possible to use any type of polyolefin in this layer (paragraph 0052) which would include the cross linked polyethylene preferred by Hansen et al. as stated above.

33. One of ordinary skill in the art at the time of the invention would be motivated to modify the invention of Hansen et al. with that of Schmitz et al. because the invention of Schmitz et al. would offer adhesion between layers which remains intact even after prolonged exposure to aqueous matter of elevated temperatures (paragraph 0010).

34. Claim 81 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hansen et al. (US 2002/0007861) in view of Schmitz et al. (US 2002/0082352) as applied to claim 80 and in further view of Hibino (JP 59155010).

35. As stated above Hansen et al. and Schmitz et al. teach a multilayer pipe with an inner layer comprising a polar functional polyethylene, however they are silent regarding the polar functional polyethylene being ethylene/glycidyl methacrylate.

36. Hibino et al. teach that it is known in the art at the time of the invention for inner layers of pipes used to convey water to have an inner layer which comprises ethylene/glycidyl methacrylate (ABS).

37. One of ordinary skill in the art at the time of the invention would be motivated to modify the invention of Hansen et al. and Schmitz et al. with that of Hibino because the invention of Hibino offers the ability to seal joints completely without rupture of the lining tube (ABS).

38. Claim 93 is rejected under 35 U.S.C. 103(a) as being unpatentable over Guest (EP 0 793 045) in view of Murase (US 4,305,994).

39. As stated above Guest teaches a multilayer pipe with a corrugated inner and intermediate layer, wherein the intermediate layer is a metal and the inner layer is a plastic, however they are silent regarding adding functional groups to the inner layer to increase the wetting of the deposited metallic layer.

40. Murase teaches multilayer coatings for pipes (column 10 lines 1-5).

41. In regards to claim 93 Murase teaches that it is known to add an onium compound to a plastic layer to increase its wetting to a metal layer (column 3 lines 29-50).

42. One of ordinary skill in the art at the time of the invention would be motivated to modify the invention of Guest with that of Murase because the invention of Murase offers increased wetting to a metal layer and increased ease in the formation of multilayer coated films (column 3 lines 29-50).

43. Claim 93 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hansen et al. (US 2002/0007861) in view of Murase (US 4,305,994).

44. As stated above Hansen et al. teach a multilayer pipe with a thermoplastic inner and an outer layer, wherein the outer layer is a metal and the inner layer is a plastic, however they are silent regarding adding functional groups to the inner layer to increase the wetting of the deposited metallic layer.

45. Murase teaches multilayer coatings for pipes (column 10 lines 1-5).

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46. In regards to claim 93 Murase teaches that it is known to add an onium compound to a plastic layer to increase its wetting to a metal layer (column 3 lines 29-50).

47. One of ordinary skill in the art at the time of the invention would be motivated to modify the invention of Hansen et al. with that of Murase because the invention of Murase offers increased wetting to a metal layer and increased ease in the formation of multilayer coated films (column 3 lines 29-50).

48. Claim 94 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hansen et al. (US 2002/0007861) in view of Babb et al. (US 5,730,922).

49. As stated above Hansen et al. teach multilayer pipes with functionalized polyolefins and an outer metal barrier layer, however they are silent regarding treating the outer barrier layer.

50. Babb et al. teach metal plastic compositions bond to each other.

51. In regards to claims 37-41 Babb et al. teach treating the surface of the metal with a plasma treatment, as well as a solvent treatment (solvent cleaning) (column 13 line 45 column 14 line 14).

52. One of ordinary skill in the art at the time of the invention would be motivated to modify the invention of Hansen et al. and Schmitz with that of Babb et al. because the invention of Babb et al. promotes better adhesion between the plastic and metal layers (column 13 lines 45-46).

53. Claims 95 and 96 rejected under 35 U.S.C. 103(a) as being unpatentable over Hansen et al (US 2002/0007861) in view of Schmitz et al. (US 2002/0082352) and Matteodo (US 5,132,344).

54. As stated above Hansen et al. and Schmitz et al. teach multilayer pipes with functionalized polyolefins and an UV stabilizer however they are silent regarding specific UV stabilizers.

55. Matteodo teaches that sterically hindered amines are good UV stabilizers for polyethylene compositions (column 4 lines 40-43). And that these polyethylenes are good for pipe manufacture (column 5 lines 27-31).

56. In regards to claim 96 as the color, resistance to coloration effects, and stability of the pipe are variable(s) that can be modified, among others, by adjusting said thickness of the metal layer (col.4, lines 28-42), the thickness of the metal layer would have been considered a result effective variable by one having ordinary skill in the art at the time the invention was made. As such, without showing unexpected results, the claimed thickness cannot be considered critical. Accordingly, one of ordinary skill in the art at the time the invention was made would have optimized, by routine experimentation, the thickness of the metal layer in Hansen et al. to obtain the desired balance between color, resistance to coloration effects, and stability (In re Boesch, 617 F.2d. 272, 205 USPQ 215 (CCPA 1980)), since it has been held that where the general conditions of the claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. (In re Aller, 105 USPQ 223).

57. One of ordinary skill in the art at the time of the invention would be motivated to modify the invention of Hansen et al. and Schmitz with that of Matteodo because the invention of Matteodo offers improved color and resistance to coloration effects (column 4 lines 29-35).

58. Claims 97-100 and 102 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hansen et al. (US 2002/0007861) in view of Schmitz et al. (US 2002/0082352) and Bush et al. (US 5,416,142).

59. As stated above Hansen et al. and Schmitz et al. teach multilayer pipes with functionalized polyolefins and fillers they are silent regarding the types of fillers as well as their physical properties.

60. Bush et al. teach compositions for binding thermoplastic polymers (column 1 lines 19-25).

61. In regards to claim 97, 98 and 102 Bush et al. teach common fillers for these compositions are Talc, mica and calcium carbonate (column 14 lines 34-38).

62. In regards to claim 100 Bush et al. teach that the filler is present in amounts from 0-5% (column 14 line 18).

63. Also in regard to claims 99 Bush et al. teach that the particle size should be less than about 50 microns (column 14 lines 27-30).

64. One of ordinary skill in the art at the time of the invention would be motivated to modify the invention of Hansen et al. and Schmitz with that of Bush et al. because Bush et al. offers a reduced cost and improved structural strength (column 14 lines 24-26).

65. Claims 101 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hansen et al (US 2002/0007861) in view of Schmitz et al. (US 2002/0082352) and Kawahara et al. (US 4,454,258).

66. As stated above Hansen et al. and Schmitz et al. teach multilayer pipes with an inner layer comprising thermoplastics, fillers and polar functional groups, however they are silent regarding the use of fillers which have been coated with polar functional groups.

67. In regards to claim 101 Kawahara et al. teach thermoplastic compositions for use in dentistry. Kawahara et al. teach it is known to include polar coated inorganic fillers in a non polar thermoplastic material (claims 11 and 12).

68. One of ordinary skill in the art at the time of the invention would be motivated to modify the invention of Schmitz et al. and Hansen et al. with that of Kawahara et al. because the invention of Schmitz et al. which offers prolonged adhesion even after contact with alcohol or aqueous media at elevated temperatures (paragraph 0010) would benefit from the intensified bonding properties offered by the invention of Kawahara et al. (column 5 lines 47-51).

69. Claims 103-105 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hansen et al. (US 2002/0007861) in view of Schmitz et al. (US 2002/0082352) and Alexandre et al. (US 6,465,543).

70. As stated above Hansen et al. and Schmitz et al. teach multilayer pipes with functionalized polyolefins and fillers they are silent regarding the types of fillers.
71. In regards to claim 103 Alexandre et al. teach polyolefins mixed with nanofillers (column 1 lines 63-67).
72. In regards to claim 104 Alexandre teaches using 1-10 vol% of nanofiller (column 3 lines 51-55).
73. In regards to claim 105 Alexandre et al. teach that the fillers are uniformly dispersed within the polymer (column 4 lines 50-55).
74. One of ordinary skill in the art at the time of the invention would be motivated to modify the invention of Hansen et al. and Schmitz et al. with that of Alexandre et al. because the invention of Alexandre et al. offers polyolefins with enhanced physical properties (column 2 lines 40-45).
75. Claims 106-107 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hansen et al. (US 2002/0007861) in view of Schmitz et al. (US 2002/0082352) and Colburn (US 3,721,597).
76. As stated above Schmitz et al. and Hansen et al. teach multilayer pipes with functionalized polyolefins and metal barrier layers but they are silent regarding the adhesive between the layers.
77. In regards to claim 106 Colburn teaches an adhesive layer which is between a metal layer and a thermoplastic layer (column 2, lines 38-45).

78. In regards to claims 107 Colburn teaches that the adhesive partially comprise unsaturated carboxylic acids (column 5 lines 24-26).

79. One of ordinary skill in the art at the time of the invention would be motivated to modify the inventions of Schmitz et al. and Hansen et al. with that of Colburn because the invention of Colburn offers a strong bond (column 1 lines 15-20).

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ERIK KASHNIKOW whose telephone number is (571)270-3475. The examiner can normally be reached on Monday-Friday 7:30-5:00PM EST (First Friday off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Callie Shosho can be reached on (571) 272-1123. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Erik Kashnikow  
Examiner  
Art Unit 1794

/Callie E. Shosho/  
Supervisory Patent Examiner, Art Unit 1794

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